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**NAVAL WAR COLLEGE
Newport, R.I.**

**UNITY OF EFFORT: HOW CAN THE JFMCC BEST SUPPORT THE JFACC IN
INTEGRATED AIR AND MISSILE DEFENSE?**

by

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Lieutenant, USN

A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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Abstract

Command and control at the operational level must be focused on developing the means and methods to effectively counter the enemy in multiple dimensions simultaneously while integrating with other joint and coalition forces and agencies. The five basic principles for planning airspace control provide the JFMCC with a framework from which a successful supporting role in the IAMD mission may be executed. First, interoperability issues, though not necessarily solvable, should be considered and compensation made at the operational level. Next, in the consideration of mass and timing, effort should be made by the operational commander to maintain focus on higher level planning and avoid descending into tactical execution. Unity of effort, the ultimate goal of joint operations, can best be achieved when commanders take the time to develop personal relationships to facilitate trust and cooperation at all echelons of command. Integrated planning cycles are necessary for successful mission execution; the Navy's MHQ with MOC concept provides the maritime operational commander with the tools needed for effective joint integration leading to overall unity of effort. Finally, the operational commander must be prepared to continue successful mission execution when conditions in the combat environment degrade. In sum, the five basic principles of planning airspace control: interoperability, mass and timing, unity of effort, integrated planning cycles, and degraded operations each contain concepts that, when regarded as a whole, offer a sound basis for joint IAMD operations.

INTRODUCTION

Throughout history new technologies and capabilities have changed the conduct of warfare. Some technologies such as the steam engine, long-range (rifled) weaponry, and wireless telegraphy dramatically increased potential speed and lethality of a military force. In the modern era new technologies have produced weapons such as cruise missiles, ballistic missiles, and highly capable fighter and bomber aircraft as well as the weapons systems to counter these threats. “Technological developments combined with tactical innovation can bring about fundamental change in fighting capabilities.”¹ These improved capabilities may be undermined if no thought is given to implementation. In order to effectively integrate new capabilities, the objectives need to be considered at all three levels of war - strategic, operational, and tactical. Traditionally, the Navy has succeeded in executing national strategy and training its men and women to be excellent tacticians. It is the operational level of war that has been the focus in recent years, specifically, developing sound doctrine and joint force integration.

Theater missile defense is an area of particular concern for the operational commander. “The proliferation of missiles and advances in missile technologies, coupled with weapons of mass destruction (WMD), make missiles a particularly difficult and dangerous threat.”² Countering these threats at the operational level requires first that the mission be defined. Doctrine for *Countering Air and Missile Threats*, Joint Publication 3-01 (JP 3-01), describes counterair missions as those integrating both offensive and defensive

¹ Karl Lautenschlager. “Technology and the Evolution of Naval Warfare.” *International Security*, Vol 8, No.2 (Autumn 1983), p 3-51.

² U.S Office of the Chairman of the Joint Chiefs of Staff. *Countering Air and Missile Threats*. Joint Publication (JP) 3-01. Washington, DC: Office of the Chairman of the Joint Chiefs of Staff. 05 February 2007, p ix.

operations against aircraft and missile threats.³ Professor William F. Bundy, Ph.D., U.S. Naval War College, has further “...defined the combination of antiaircraft warfare and missile defense into a warfare area that will be called Integrated Air and Missile Defense.”⁴ Joint integrated air and missile defense (IAMD) requires the involvement of all elements of the joint force. Command relationships and responsibilities must be clearly defined and understood in order to effectively and efficiently execute the IAMD mission.⁵ After more than ten years of debate⁶, the generally accepted command structure for IAMD establishes the joint force air component commander (JFACC) as the supported commander for integrated air and missile defense (see Figure 1). In the maritime IAMD

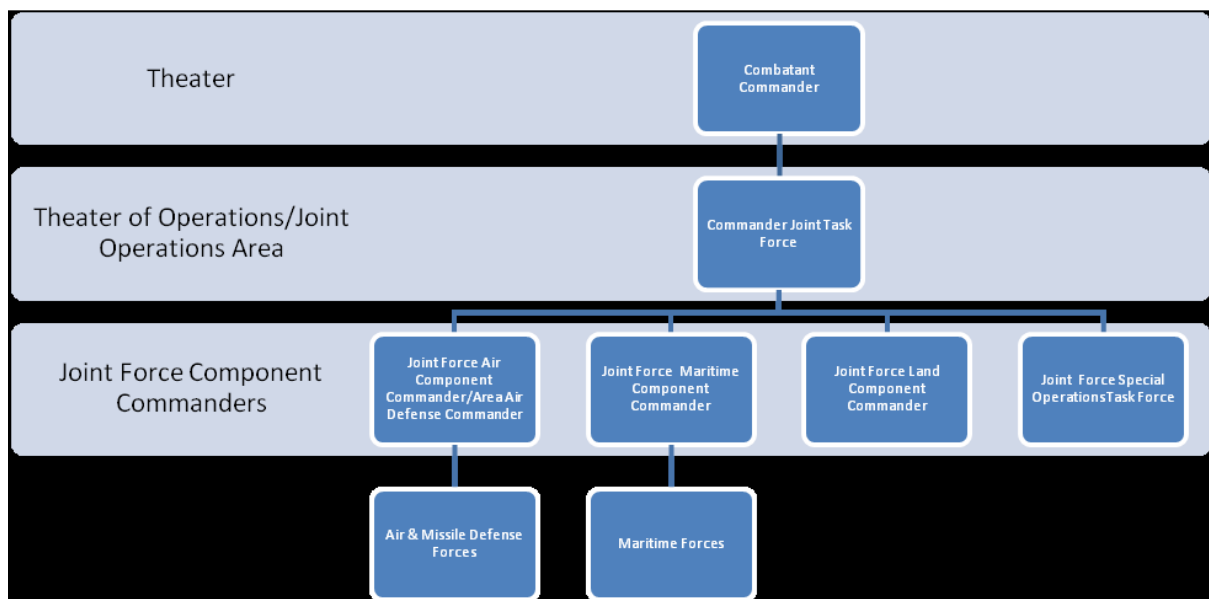


Figure 1. Joint IAMD Structure⁷

³ JP 3-01, p x.

⁴ William F. Bundy, Ph.D. “Integrated Air and Missile Defense in the Maritime Domain.” U.S. Naval War College, Newport, RI. 13 May 2009, p 1.

⁵ Ibid, p 3.

⁶ Similar topics have been researched at all three service War Colleges. Some examples: John E. Marselus “Who Pushes the Pickle Button?” Student Research Paper. U.S. Air Force War College, Maxwell AFB, AL. November 2005. Daniel P. Sauter. “Global Missile Defense: Time To Change The Current Command Construct?” USAWC Strategy Research Project. U.S. Army War College, Carlisle Barracks, PA. 26 March 2009. Tanner, Shane. ““CWC Departing”: Return of the Task Force Commander.” Student Research paper. U.S. Naval War College, Newport, RI. 04 May 2009.

⁷ Bundy, “Integrated Air and Missile Defense in the Maritime Domain,” p 3.

environment, “operating concepts must ultimately deliver counterair capabilities in two battlespace environments and also deliver capabilities common to deterrence, shaping the battlespace and prevailing in counterair operations under maritime and joint command and control.”⁸ The best method to accomplish these objectives is now the focus of debate.

This paper will discuss supported/supporting roles among operational level commanders, specifically the JFACC and the Joint Force Maritime Component Commander (JFMCC). After breaking down basic relationships and responsibilities, the five basic principles for planning airspace control will be expanded to illustrate positive means by which the JFMCC may provide effective and efficient support to the JFACC in the execution of the IAMD mission.

BACKGROUND

Defining operational level supported and supporting roles is often a difficult task. There are four basic types of support outlined in joint doctrine: general support, mutual support, direct support, and close support. General support is given to the force as a whole while mutual support is given by two forces in relation to each other and the common enemy. Direct support requires one force to support another in response to a specific request for assistance and authorizes the supporting force to respond directly to the supported force. Finally, close support requires the supporting force to closely integrate and coordinate actions with the supported force due to proximity of targets or objectives.⁹ The Joint Force

⁸ Bundy, “Integrated Air and Missile Defense in the Maritime Domain,” p 3.

⁹ U.S Office of the Chairman of the Joint Chiefs of Staff, *Personnel Support to Joint Operations*, Joint Publication (JP) 1-0, (Washington, DC: Office of the Chairman of the Joint Chiefs of Staff, 16 October 2006), p IV-11.

Commander (JFC) will normally establish the supported/supporting relationships among subordinate component commanders to effectively facilitate and prioritize operations. To fulfill the specified relationships, liaison and communication should be established as soon as feasible among designated component commanders. Once established, these relationships are not static, but can and will evolve as the operational objectives are met or are changed.¹⁰

The operational objectives and missions of two component commanders may overlap, as is the case with integrated air and missile defense (IAMD). Both the Joint Force Air Component Commander (JFACC) and the Joint Force Maritime Component Commander (JFMCC) are involved in IAMD planning and execution. Current joint doctrine suggests the JFMCC separate allocated forces into two pools - aviation sorties and air and missile defense (AMD) assets. Joint Publication 3-01, *Countering Air and Missile Threats*, states that “air sorties made available [to the JFACC] for tasking normally are provided under TACON while surface-based AMD forces are provided in direct support with mission-type orders.”¹¹ However, it must be noted that in many instances surface based air and missile defense assets may be required to perform multiple missions simultaneously in support of both the JFMCC and the JFACC. Due to the overlap in operational objectives, limited assets available for tasking, and potential for dual mission execution in support of two different component

¹⁰Ibid, p IV-12.

¹¹ U.S Office of the Chairman of the Joint Chiefs of Staff, *Countering Air and Missile Threats*, Joint Publication (JP) 3-01, (Washington, DC: Office of the Chairman of the Joint Chiefs of Staff, 05 February 2007), p II-1. Tactical control (TACON) - Command authority over assigned or attached forces or commands, or military capability or forces made available for tasking, that is limited to the detailed direction and control of movements or maneuvers within the operational area necessary to accomplish missions or tasks assigned. Tactical control is inherent in operational control. Tactical control may be delegated to, and exercised at any of combat support assets within the assigned mission or task. (JP 1-02, p 533) Mission type order - 1. An order issued to a lower unit that includes the accomplishment of the total level at or below the level of combatant command. Tactical control provides sufficient authority for controlling and directing the application of force or tactical use mission assigned to the higher headquarters. 2. An order to a unit to perform a mission without specifying how it is to be accomplished. (JP 1-02, p 351).

commanders, the JFACC and JFMCC would be better served to use close support to facilitate the accomplishment of assigned objectives.

A clearly delineated chain of command with defined supported/supporting relationships will facilitate the use of close support. Normally the JFACC will be appointed by the JFC as the Area Air Defense Commander (AADC) and Airspace Control Authority (ACA) and will be the supported commander for integrated air and missile defense. The AADC is responsible for developing the Area Air Defense Plan (AADP) and the Airspace Control Plan (ACP) to facilitate safe and expeditious command and control of the joint operations area. The AADC may then further designate Regional Air Defense Commanders (RADC) and Sector Air Defense Commanders (SADC) as required to effectively control the designated joint operational area (JOA) airspace.¹²

Typically, the JFMCC is assigned RADC duties in support of the JFACC/AADC. Integrated air and missile defense is a complicated mission in which the supported/supporting roles must be thoroughly explained and agreed upon to avoid command and control seams which could negatively affect friendly forces. The question is how can the JFMCC best support the JFACC in IAMD while still achieving the maritime operational objectives. Although command and control for IAMD is complicated, there is no need to develop new and complex processes to deal with it. The key is to use existing processes and to keep the planning and execution as simple as possible. To this aim, the JFMCC can best exercise the supporting role in IAMD using existing processes and expanding and adhering to the five basic principles for planning airspace control: interoperability, mass and timing, unity of effort, integrated planning cycles, and degraded operations.

¹² JP 3-01,p III-4,5.

DISCUSSION

The five basic principles for planning airspace control (Figure 2) can be expanded to encompass missile defense both within an area of responsibility (AOR) and across AOR boundaries. Due to space constraints and to maintain an operational focus, the principles of interoperability and mass and timing will only be discussed in a perfunctory manner as they pertain to integrated air and missile defense operational planning.



Figure 2. Principles for Planning Airspace Control.¹³

Interoperability planning should take into account differences in equipment, personnel requirements, and differences in service terminology. Interoperability issues are not generally solvable by operational level commanders. Typically technology, funding, service doctrine, and acquisition processes will need to be addressed to fully eliminate a lack of interoperability. For the JFMCC, it is important to understand that some assets, especially AEGIS, may need to be dual tasked to achieve both maritime objectives and to provide sufficient support to the JFACC for IAMD. Detailed understanding of objectives and

¹³ JP-3-01, p III-6.

coordination of plans and requirements will provide for effective operations, contribute to conservation of force, and may help to prevent fratricide. At the operational level, it is important that the planning process should identify interoperability issues and facilitate coordination where interoperability is not possible.¹⁴

The principle of mass and timing at the operational level is concerned with planning for actual airspace deconfliction but can digress to the tactical level quickly in regards to execution. The AADC must determine overall air traffic volume and be able to plan and deconflict both offensive and defensive counterair missions.¹⁵ The airspace control order (ACO) and airspace control measures (ACM) are derived from the ACP and then promulgated to all forces in the joint operations area. Some of the control measures available for planning airspace deconfliction are restricted operating areas, restricted operating zones, fighter engagement zones, missile engagement zones, and joint engagement zones. The AADC and subordinate RADCs must effectively coordinate to create control measures that address both general as well as platform specific requirements.¹⁶ The JFMCC/RADC planners must work closely with JFACC/AADC planners to ensure that platform capabilities and limitations are taken into account as well as alternate or concurrent tasking that must be accomplished by those assets. Ultimately, the principles of interoperability and mass and timing can only be effectively accomplished if there is unity of effort throughout the command and control structure.

Unity of effort is the ultimate goal of commanders at the operational level of war and

¹⁴ JP 3-01, p III-6,7.

¹⁵ Ibid, p III-7.

¹⁶ U.S. Navy, *IADS Multi-service Tactics, Techniques, and Procedures for an Integrated Air Defense System*, NTTP 3-01.8, May 2009, p 15.

a main prerequisite for successful operations.¹⁷ The JFC develops a concept of operations (CONOPS) and designates subordinate component commanders as necessary to achieve desired objectives. It is then the responsibility of the component commanders to execute the JFC CONOPS objectives. Whereas unity of command consolidates all efforts under a single commander, “unity of effort requires coordination and cooperation among all forces toward a commonly recognized objective, although they are not necessarily part of the same command structure.”¹⁸ One method the JFMCC can employ toward the achievement of unity of effort in the IAMD mission is to focus on interpersonal relationships. It is important that the JFMCC and staff develop personal relationships both vertically and horizontally among joint and coalition forces. “Strong personality differences or the parochial interests of a certain service have most often been the cause of insufficient cooperation in planning and executing a campaign or major operation.”¹⁹ Taking the time to build personal relationships fosters an environment of cooperation, respect, and a willingness to develop and share new ideas. In order to develop strong worthwhile relationships, the commander must be present and involved in the planning process.²⁰ Lessons learned from the Joint Warfighting Center, United States Joint Forces Command, in a study regarding theater-level JFACC command and control note that “...a weakening in personal relationships, and associated trust and confidence due to the changed organization/C2 structure, heavier reliance on virtual vice physical presence, and greater geographical distance between HQs” have all contributed to a

¹⁷ Milan N. Vego. *Joint Operational Warfare*. U.S. Naval War College, Newport, RI. Reprint, 2009, p VIII-13.

¹⁸ U.S. Navy. *Maritime Operations Center*. Naval Warfare Publication (NWP) 3-32. Washington, DC: Office of the Chief of Naval Operations. October 2008, p 3-2.

¹⁹ Vego, *Joint Operational Warfare*, p VIII-9.

²⁰ *Ibid*, p X-13.

perception that the JFACC is not responsive or readily accessible.²¹ The JFMCC must avoid attaching this type of perception to the maritime operational command. A strong personal relationship between the JFMCC and JFACC based on mutual respect and shared understanding of objectives will facilitate effective command and control of the IAMD mission at the operational level.

The fourth principle for planning airspace control, integrated planning cycles, is one the Navy has only recently begun to address. The Navy has a “rich culture of operational freedom”²² and inter-service cooperation at all three levels of war. However, since WWII, there has been little opportunity for the Navy to plan and execute major operations.

As a result, the operational art and C2 capabilities associated with command at the maritime operational level have not had the opportunities to evolve and adapt to the modern operational environment. The maritime headquarters with maritime operations center (MHQ with MOC) is focused on defining and developing operational-level headquarters around the globe with some degree of baseline commonality.²³

The MHQ with MOC “...represents the nexus of joint and Navy transformation initiatives, lessons learned in the Global War on Terrorism, and progress toward the *Sea Power 21* vision.”²⁴ An important lesson learned from OIF and OEF was the need for the Navy to be able to interact with the Air Force and Army at an operational level. The MHQ with MOC was designed to provide the Navy a standardized joint command and control structure. The MHQ with MOC is scalable and can be tailored to the needs of the operational level commander and the assigned mission. Flexibility is inherent in the MHQ with MOC concept,

²¹ Gary Luck and Mike Findlay. “Air Component Integration in the Joint Force – Focus Paper #6.” Joint Warfighting Center. U.S. Joint Forces Command, Norfolk, VA. 20 March 2009.

²² NWP 3-32, p1-2.

²³ Ibid, p 1-3.

²⁴ Susan G. Hutchins, et al, “Maritime Headquarters with maritime Operations Center: A research Agenda for Experimentation,” Naval Postgraduate School, Monterey CA, June 2009.

allowing the transition between various command roles such as joint task force command, JFMCC, or service functional command.²⁵

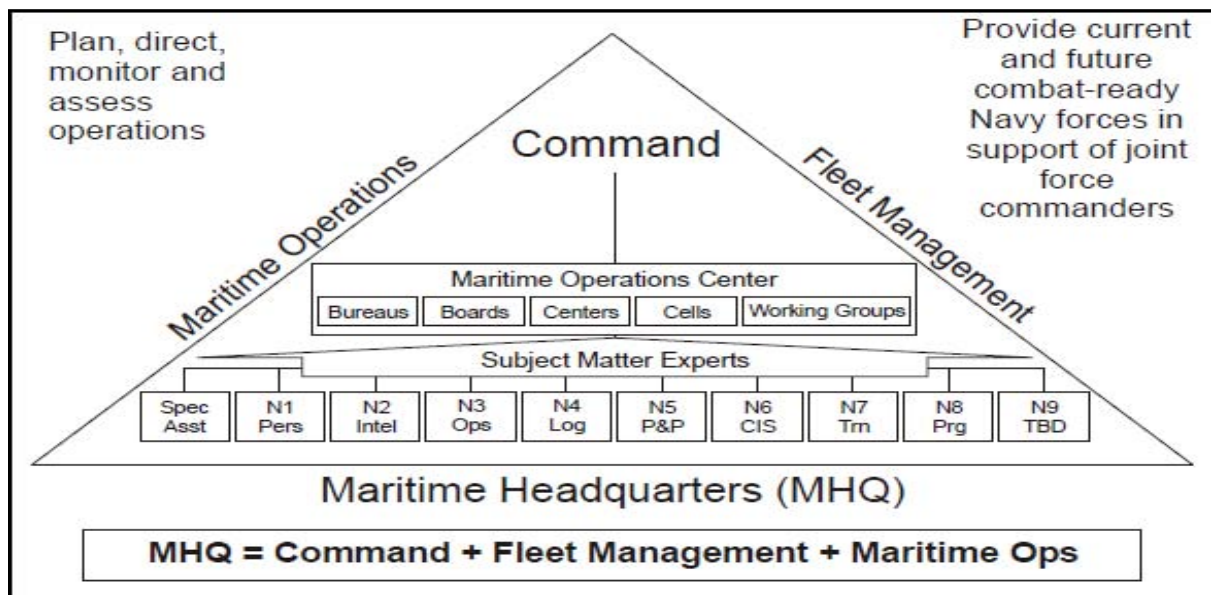


Figure 3. MHQ with MOC structure²⁶

The final principle for planning airspace control, degraded operations, is the culmination of all other principles. The commander should have a plan to continue successful mission execution when prior planning fails or when the factor time is limited. To facilitate execution and further planning in a degraded environment, commander's intent must be clearly and concisely stated and must be fully understood at all levels of command. When the operational commander fails to clearly outline expectations and objectives, the operation will have little chance of success after first contact with the enemy or when the fog of war necessitates a change in the original plan. In addition to clear intent, decentralized command and control must be emphasized. When decision-making becomes too centralized, the operational commander prevents subordinate commanders from executing intent in the most

²⁵ Richard W. Weathers. OPNAV N2/N6. Personal interview by the author. Newport, RI. 21 April 2010.

²⁶ NWP 3-32, p 7-17.

flexible and efficient manner. In IAMD, a high degree of centralization during execution may prevent a tactical level commander from successfully intercepting an enemy missile, especially in a degraded communications environment. When command and control is too centralized, it “does not leave any room for maneuver, either in execution or result, or in terms of time, timing, and duration.”²⁷ In contrast, decentralized command and control “allows greater flexibility for adapting rapidly to changing battlefield situations, dealing with unforeseen problems, and exploiting fleeting opportunities.”²⁸ Further, it is important that the concept of command by negation, a form of decentralized execution unique to the Navy, be observed in the execution of the IAMD mission.²⁹ Integrated air and missile defense is a mission that may have only minutes to react to an event, certainly not enough time to communicate up and down the chain of command, requesting permissions and delivering authoritative orders. Command by negation is a principle the Navy has used successfully for many years and is well suited for executing commander’s intent during IAMD operations in a degraded environment.

CONCLUSIONS

The debate over supported/supporting command roles in relation to integrated air and missile defense has gone on for years and will continue in the future. The answer, for now, is that the JFMCC will act in a supporting role to the JFACC in the execution of the integrated air and missile defense mission. As ballistic missile proliferation increases, the demands on IAMD assets will also increase. Simply possessing a capability without effective and efficient means or methods to implement that capability is not a constructive or positive way

²⁷ Milan N. Vego, *Joint Operational Warfare*, p X-19.

²⁸ Ibid, p X-21.

²⁹ NWP 3-32, p 1-7.

to operate as a joint force. Command and control at the operational level must be focused on developing the means and methods to effectively counter the enemy in multiple dimensions simultaneously while integrating with other joint and coalition forces and agencies. The five basic principles for planning airspace control provide the JFMCC with a framework from which a successful supporting role in the IAMD mission may be executed. First, interoperability issues, though not necessarily solvable, should be considered and compensation made at the operational level. Next, in the consideration of mass and timing, effort should be made by the operational commander to maintain focus on higher level planning and avoid descending into tactical execution. Unity of effort, the ultimate goal of joint operations, can best be achieved when commanders take the time to develop personal relationships to facilitate trust and cooperation at all echelons of command. Integrated planning cycles are necessary for successful mission execution; the Navy's MHQ with MOC concept provides the maritime operational commander with the tools needed for effective joint integration leading to overall unity of effort. Finally, the operational commander must be prepared to continue successful mission execution when conditions in the combat environment degrade. In sum, the five basic principles of planning airspace control: interoperability, mass and timing, unity of effort, integrated planning cycles, and degraded operations each contain concepts that, when regarded as a whole, offer a sound basis for joint IAMD operations.

RECOMMENDATIONS

In order to be successful in the execution of the IAMD mission, effective integration to prevent command and control seams must be the focus of operational commanders. Whether an event spans a single area of responsibility (AOR) or crosses multiple AORs, the

command and control structure should be organized to facilitate proper decision making and timely execution in support of friendly forces and objectives. First and foremost, commander's intent must be clear, concise, and complete. Using compelling language, the commander must identify objectives and define what constitutes success. "The operational commander's intent should not use unclear and vague language, which can lead to ambiguity and misinterpretation; it would be then useless."³⁰ To aid in creating and promulgating clear commander's intent, the operational commander should strive to develop strong personal relationships throughout the chain of command. The JFMCC and JFACC must maintain a relationship of trust and cooperation. This relationship should also extend to the respective staffs. Too often, directions and orders are given with little understanding of those on the receiving end, and "a poor command climate can reduce freedom of action for subordinate commanders."³¹ Disregarding personal relationships can lead to increased service rivalries with a corresponding decrease in cooperation and, ultimately, a failure to achieve unity of effort.

In addition to those recommendations discussed above, overall unity of effort in the IAMD mission may be achieved by instituting a maritime air defense commander (MADC). Rather than acting in a RADC role subordinate to the AADC, the JFMCC should act as a MADC in conjunction with the AADC, both subordinate to the joint force commander.³² Figure 4 illustrates the proposed theater air defense plan (TADP) and related command structure. The MADC would be responsible for developing a maritime air defense plan (MADP) while the AADC would remain responsible

³⁰ Vego, *Joint Operational Warfare*, p IX-32.

³¹ Ibid, p X-51.

³² The MADC should not be confused with the carrier strike group air defense commander who may act as a maritime sector air defense commander (MSADC).

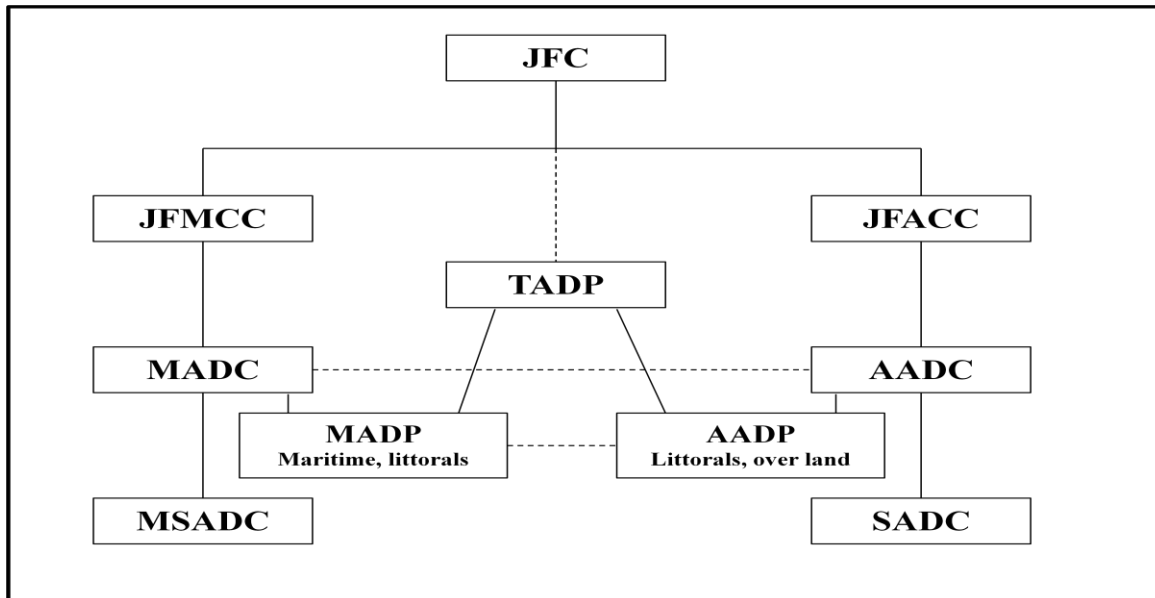


Figure 4. Proposed Theater Air Defense Plan

for the AADP. The MADP and AADP would not be competing documents, nor would they be developed in a vacuum. The proposed command structure would require the close coordination and cooperation between the MADC and AADC to produce an integrated TADP, while retaining the flexibility to adapt to the changing combat situation. The JFMCC

“must be agile enough to react to rapidly changing events at sea, in the seaward littoral, and the landward littoral, as well as to project power and defense inland in support of other component commanders while providing for efficient and continuous execution of all phases of the joint targeting process.”³³

The MADC role would provide more flexibility in the littoral environment as well as increased situational awareness in the event a joint task force air and space operations center (AOC) is not present. With the theater level AOC concept becoming more accepted, the

³³ U.S Office of the Chairman of the Joint Chiefs of Staff. *Command and Control for Joint Maritime Operations*. Joint Publication (JP) 3-32. Washington, DC: Office of the Chairman of the Joint Chiefs of Staff. 08 August 2006 (incorporating change 1, 27 May2008), p III-5.

JFACC/AADC may be many miles (and time zones) away from the operations area.³⁴ In a peacetime environment, the distance is not a cause for alarm and operations may be executed successfully from a distance. The proposed command structure will also facilitate the use of decentralized command and control (C2), specifically, command by negation. In combat, especially with a near peer competitor, communications lines may be unavailable making the distance insurmountable.

“In decentralized C2, dependence on communications is generally greatly reduced. Reaction time is also considerably shortened, because subordinate commanders are allowed to act without constantly asking for advice and consent from their superiors. In the case of heavy overload or even total breakdown of communications, lower-command echelons are better prepared to act on their own initiative than in a highly centralized C2.”³⁵

The TADP, developed with the coordination and cooperation of the MADC and AADC, may be successfully implemented by either commander. A TADP would aid in preventing command and control seams while contributing to overall unity of effort.

To aid the JFMCC/MADC in integrating with the JFACC/AADC, a competent liaison element is required. The current opinion is that

“interface in the targeting process via collaborative tools provides for greater visibility into joint targeting for the MOC and the maritime commanders, closer access to commanders’ targeting guidance and priorities for MOC targeting personnel, and reduction of NALE/LNO requirements and footprint at other joint commands.”³⁶

Again, caution must be used in the total reliance on communications and computer systems, especially when considering a near peer competitor. Rather than reducing or eliminating the

³⁴ Gary Luck and Mike Findlay. “Air Component Integration in the Joint Force – Focus Paper #6.” Joint Warfighting Center. U.S. Joint Forces Command, Norfolk, VA. 20 March 2009.

³⁵ Vego, *Joint Operational Warfare*, p X-21.

³⁶ U.S. Navy. *Maritime Operations Center*. Naval Tactics, Techniques, and Procedures (NTTP) 3-32.1. Washington, DC: Office of the Chief of Naval Operations. October 2008, p 4-12.

NALE, the Navy should develop a joint maritime component coordination element (JMCCE) similar to the Air Force joint air component coordination element (JACCE). “When established, the JACCE is a component level liaison that serves as the direct representative of the JFACC.”³⁷ The JMCCE should not be a standing liaison element, rather it should be developed when required, scaled to the needs of the operation, and tailored to provide necessary expertise to other component commanders. When established, the JMCCE would be the direct representative of the joint force maritime component commander. The JMCCE would contribute to interoperability, integrated planning cycles, and ultimately, unity of effort.

The above recommendations all have one thing in common - achieving unity of effort to facilitate success for friendly forces in the execution of the IAMD mission. The list is by no means exhaustive and it is understood that the operational commander may not be in the position to implement all of the recommendations. It is important, however, for the operational commander to keep in mind the principles of interoperability, mass and timing, unity of effort, integrated planning cycles, and degraded operations, and implement the recommendations that are within the commander’s span of control.

³⁷ U.S Office of the Chairman of the Joint Chiefs of Staff. *Command and Control for Joint Air Operations*. Joint Publication (JP) 3-30. Washington, DC: Office of the Chairman of the Joint Chiefs of Staff. 12 January 2010, p II-15.

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